

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Mika Gomi et al.
Filed: May 20, 1998
Title: "LIQUID CRYSTAL DISPLAY DEVICE"
Docket No.: 30821US2

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington D.C. 20231

Sir/Madam:

Please amend the application submitted herewith as follows before the examination thereof.

IN THE CLAIMS:

Please delete claims 1-11.

Please add new claims 12-23 as follows:

- 1 12. (new) A liquid crystal display device
- 2 comprising:
- 3 a liquid crystal panel comprising liquid crystal
- 4 cells, a first plate disposed on a displaying side of the
- 5 cells, and a second plate disposed on a reverse side of
- 6 the cells;
- 7 a liquid crystal driver electrically connected with

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8 the liquid crystal panel through a circuit pattern; and
9 a light shielding material disposed adjacent said
10 liquid crystal driver so as to prevent an outer light
11 from being incident to said liquid crystal driver,
12 wherein

13 said liquid crystal driver is mounted on the liquid
14 crystal panel by a light shielding resin disposed on said
15 liquid crystal panel so as to cover one end of a film
16 carrier and a side surface of said liquid crystal driver.

1 13. (new) The liquid crystal display device
2 according to claim 12, wherein one end of said liquid
3 crystal panel is located on the film carrier and said end
4 is covered with a light shielding film extending from
5 said liquid crystal panel to said film carrier.

1 14. (new) The liquid crystal display device
2 according to the claim 12,
3 wherein said first plate has a reverse side facing
4 the liquid crystal cells and an opposite displaying side
5 said liquid crystal driver is mounted on the reverse side
6 of the first plate, and
7 said light shielding material comprises a light
8 shielding film affixed to the displaying side of said
9 first plate so as to cover an area which is opposite to a
10 mounting position of said liquid crystal driver.

1 15. (new) The liquid crystal display device
2 according to the claim 12,
3 wherein said second plate has a displaying side
4 facing the liquid crystal cells and an opposite reverse
5 side and said liquid crystal driver is mounted on the
6 display side of the second plate, and
7 said light shielding material comprised a light
8 shielding film affixed to the reverse side of the second
9 plate.

1 16. (new) The liquid crystal display device
2 according to the claim 12,
3 wherein said circuit pattern is formed on a film
4 carrier;
5 said liquid crystal driver is mounted on the film
6 carrier and disposed under the second plated; and
7 said light shielding material comprises a light
8 shielding film affixed on a surface of said liquid
9 crystal driver facing the second plate.

1 17. (new) The liquid crystal display device
2 according to the claim 16,
3 wherein said liquid crystal driver is mounted on a
4 surface of said film carrier facing the second plate;
5 and a surface of said liquid crystal driver opposite

6 the second plate is covered with light shielding resin.

1 18. (new) The liquid crystal display device

2 according to the claim 16,

3 wherein said liquid crystal driver is mounted on a
4 surface of said film carrier opposite the second plate;

5 and a surface of said liquid crystal driver facing
6 the second plate is covered with light shielding resin.

1 19. (new) The liquid crystal display device

2 according to the claim 12,

3 wherein the device is further mounted in a portable
4 telephone terminal.

1 20. (amended) The liquid crystal display device

2 according to the claim 12, further comprising a diffusion
3 sheet located adjacent said liquid crystal display panel,

4 wherein said diffusion sheet is composed of a light
5 diffusing area and a light absorbing area located on the
6 outer periphery thereof, the light diffusing area serving
7 to diffuse illumination light from a light source to the
8 liquid crystal display panel, and the light absorbing
9 area serving to absorb the extraneous light incident on
10 said liquid crystal driver.

1 21. (new) The liquid crystal display device

2 according to the claim 12, wherein the first plate has a
3 first transparent electrode, the second plate has a
4 second transparent electrode, and the liquid crystal
5 cells are carried between the first and second
6 transparent electrodes and;

7 the device further comprises a light shielding resin
8 covering an exposed area of the first transparent
9 electrode from the liquid crystal cells so that the light
10 which reflects from said diffusion sheet to reach the
11 liquid crystal is shielded.

1 22. (new) The liquid crystal display device
2 according to the claim 21, wherein said light shielding
3 resin and said light absorbing area of said diffusion
4 sheet are colored in black.

1 23. (new) The liquid crystal display device
2 according to the claim 21, wherein said light shielding
3 resin is colored black.

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